



# Innovations in Telework - Enabling Technologies

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innovation   Pronunciation Key (ĩn'ə-vā'shən)  
n.

1. The act of introducing something new.
2. Something newly introduced.



**Problem: Security – Would not put corporate data or “trade secrets” over Internet....**

Innovation: 3DES Triple Data Encryption Standard. Based on the DES algorithm developed by an IBM team in 1974. Data is encrypted with the first key, decrypted with the second key, and finally encrypted again with the third key. This makes 3DES three times slower than standard DES but offers much greater security. Typically used with VPN solutions.

Innovation: SSL (Secure Sockets Layer) and PKI (Public Key Infrastructure/Certificates) Additional technology developed to aide in making applications available through standard “web browsers” across the Internet.

Innovation: SecurID - two-factor authentication is based on something you know (a password or PIN) and something you have (an authenticator)—providing a much more reliable level of user authentication than reusable passwords.



**Problem: Most applications would not work properly without a high speed connection.**

Innovation: DSL, Cable-Modems, T1, etc.

As of April of 2004, of those connected to the Internet,

- 79% of US users at work enjoy a high-speed connection
- 21% connect from work at 56Kbps or less

Source: Nielsen//NetRatings



**Problem: Costs of a new computer in every home. Support of computers in the home. Government restrictions on remote computers. Security concerns.**

Innovation: Terminal Services - technology that lets users remotely execute Windows-based applications on a terminal server. Applications run entirely on the server. The server transfers only the user interface, keystrokes, and mouse movements between the server and client.

Innovation: Citrix- MetaFrame- a secure, single point of access to enterprise applications and information on demand, while ensuring a consistent user experience anywhere, anytime, using any device, over any connection.

Innovation: GotomyPC/Citrix Online – enables employees to instantly and securely view their PC desktops and use their office email, files, applications, intranet and all other corporate resources after hours. (Remote Control)

Innovation: Web-Enabled Solutions: The ability to connect to an application that is hosted at the corporate location through any Internet browser. Example: Microsoft Exchange OWA, Citrix NFuse, IBM, Microsoft.



**Problem: Great data solutions, but need voice solution as well.**

Innovation: PBX Extender – The ability to extend your corporate PBX voice systems to remote offices and mobile workers easily and economically. Nortel Networks, AVAYA, MCK, etc.

Innovation: VOIP (Voice Over Internet Protocol) - A voice message delivered using the Internet Protocol. It is a term used in IP telephony for a set of facilities for managing the delivery of voice information using the Internet Protocol. In general, this means sending voice information in digital form in discrete packets rather than in the traditional circuit-committed protocols of the public switched telephone network (PSTN). Nortel Networks, Cisco, AVAYA, AT&T, etc.

Innovation: Follow-me services – Technology that allows a single telephone number the ability to search multiple platforms for the best avenue of delivery. Very similar to “remote call forwarding” except with intelligence built-in to review multiple destinations.



**Problem: Remote workers have higher demand of connection anywhere – not just in the home.....**

Innovation: Wireless Internet. Now available from most providers can use laptop or mobile device to connect to the Internet anywhere the service provider “foot-print” available.

Innovation: WiFi - Short for **w**ireless **f**idelity and is meant to be used generically when referring of any type of 802.11 network, whether 802.11b, 802.11a, dual-band, etc. The term is promulgated by the Wi-Fi Alliance.

Innovation: Handhelds – Blackberry, Palm, WindowsCE, etc.

Innovation: Unified Messaging – The convergence of electronic and analog communications which provides the ability to receive email with voicemail attached or the ability to receive faxes inside email. Or the ability to send faxes directly from the desktop.



**Problem: Distributed workforce makes it impossible for a team to work together on projects.**

Innovation: Web-Collaboration/Sharing tools such as “Webex”, Netmeeting, Instant messengers, Electronic Whiteboards, FTP locations, etc.

- **See** what others are seeing, rather than being limited to a conference call
- **Listen** and hold conversations rather than having to type your comments
- **Chat in text** when something like a URL needs to be shared
- **Present** anything you have on your computer from within your standard applications
- **Share** documents, budgets, and plans so you can collaborate





**Problem: Managers and executives with the mindset that you can not manage your employees without being able to physically see them.**

**Innovation: There is only so much that technology can do!**